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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/516,325

12/13/2004

Bryan Nicholas Flynn

04229

3913

23338 7590 10/04/2007  
DENNISON, SCHULTZ & MACDONALD  
1727 KING STREET  
SUITE 105  
ALEXANDRIA, VA 22314

EXAMINER

KHATRI, PRASHANT J

ART UNIT

PAPER NUMBER

1709

MAIL DATE

DELIVERY MODE

10/04/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/516,325	<b>Applicant(s)</b> FLYNN ET AL.	
	<b>Examiner</b> Prashant J. Khatri	<b>Art Unit</b> 1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/13/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Flynn et al. (***WO 94/05863***).

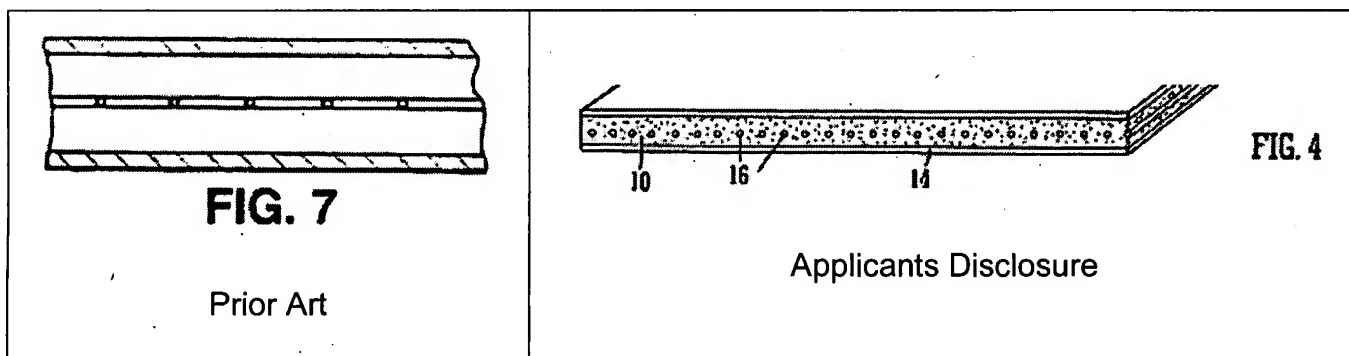
3. Applicants claim a waterproofing material comprising a core layer of bentonite clay, sandwiched between carrier layers. The sandwiched composite material is connected to each other by ultrasonic welding. The carrier layers comprise of a non-woven textile fabric and are made of polypropylene (PP), polyethylene (PE), or polyvinylchloride (PVC). There is a further layer that is an impermeable film. The core layer is formed by extrusion or rolling. In addition, there is a flexible perforate reinforcement in the core layer made of a plastic material. Applicants also claim the method of making said composite structure.

4. Flynn et al. disclose a waterproofing liner material that comprises of smectite, which includes montmorillonite and saponite clay species (***pp. 6-7, last para.***) as the core material. Examiner regards bentonite as being equivalent to montmorillonite as it is known in the art that bentonite consists mostly of montmorillonite. Additionally, examiner regards the carrier layers as claimed by the applicants to be equivalent to the support and/or cover layer disclosed by the prior art. Prior art discloses the support

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and/or cover layer as being non-venting, or impermeable and comprising of "non-woven textiles such as nylon or polypropylene or polyester" (*p. 15-16, last para. on p. 15*).

The layered composite structure is formed by extrusion and the smectite material is wetted, dried, and rewetted (*p. 50, para. 1 and 2*). Figure 7 of the prior art is equivalent to the cross-section of Figure 4 as claimed by the applicant and shows a permeable membrane that is within the core layer of the composite structure.



The prior art also discloses the method of "penetration by polymer spikes weldable to a sheet on the other side of the clay to form a stable slope engaging material" (*p. 50, para. 3*). Examiner interprets the above as equivalent to connecting the carrier layers at one or more lines.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peggs (**WO 97/36060**).

7. Applicants claim a waterproofing material comprising a core layer of bentonite clay, sandwiched between carrier layers. The sandwiched composite material is connected to each other by ultrasonic welding. The carrier layers comprise of a non-woven textile fabric and are made of polypropylene (PP), polyethylene (PE), or polyvinylchloride (PVC). The weld lines can be connected in a series of offset positions that are relative to the first series. There is a further layer that is an impermeable film. The core layer is formed by extrusion or rolling. Applicants also claim the method of making said waterproofing material.

8. Peggs discloses a water and oil impermeable geosynthetic clay liner that comprises of a core layer made of bentonite clay and a top and bottom surface (**FIG. 1**). The core layer has a water permeable layer that is made of PE and PVC among a selection of heat deformable plastics (**p. 8, lines 27+**). There is a series of pockets where in the core layer that contain the bentonite clay particles (**FIGS. 1 and 4**). It would have been obvious to one skilled in the art to apply ultrasonic welding methods to the article, as the process does not melt the entire surface and just a concentrated area. Additionally, it would have been obvious to one skilled in the art to offset the seal lines, as it is known that offset stitching provides a firmer hold and this method is analogous to the stitching.

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9. Claims 1-6 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Heerten et al. (**US 5,041,330**).

10. Applicants claim a waterproofing material comprising a core layer of bentonite clay, sandwiched between carrier layers. The sandwiched composite material is connected to each other by ultrasonic welding. The carrier layers comprise of a non-woven textile fabric and are made of polypropylene (PP), polyethylene (PE), or polyvinylchloride (PVC). The weld lines can be connected in a series of offset positions that are relative to the first series. There is a further layer that is an impermeable film. The core layer is formed by extrusion or rolling. Applicants also claim the method of making said waterproofing material.

11. Heerten et al. disclose a water and/or oil impermeable sealing mat. The cover layer comprises of a non-woven textile material such as PE, PVC, PP, and other high grade synthetic materials (**col. 6, lines 40+**). As Figure 1 of the prior art demonstrates, the composite material is extruded. It is known in the plastics industry that ultrasonic welding is a means for sealing polymeric materials to form joints without significantly damaging the substrate material. Therefore, it would have been obvious to one skilled in the art to seal the edges and other areas using ultrasonic means.

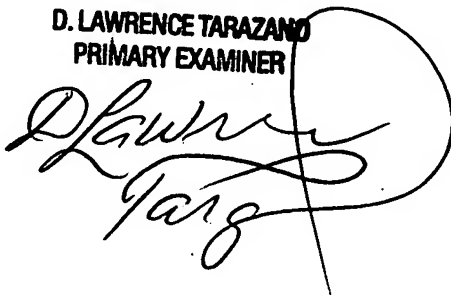
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prashant J. Khatri whose telephone number is (571) 270-3470. The examiner can normally be reached on M-F 7:30 A.M.-5:00 P.M. (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**D. LAWRENCE TARAZANO  
PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read 'D. Lawrence Tarazano', is written over a circular stamp. The signature is fluid and cursive.

Prashant J. Khatri  
Examiner  
Art Unit 1709